

6-12-20

# TRANSPORTATION

## INTRODUCTION

Hallowell's transportation system was originally centered on the Kennebec River. As a result, the downtown development follows a transportation corridor that closely follows the riverbank from Gardiner to Augusta. As the city grew, a street grid with sidewalks grew up from the river valley. Longer roads connected outlying parts of the city to market opportunities downtown. In the middle of the 20<sup>th</sup> Century, I-95 was constructed across Hallowell, providing quick intercity access for those with vehicles. More recently, the Kennebec River Rail Trail was completed to provide a bicycle option for intercity travel. While the use of the river evolved from a way to deliver freight towards recreation, the connection to the waterfront remains part of the infrastructure.

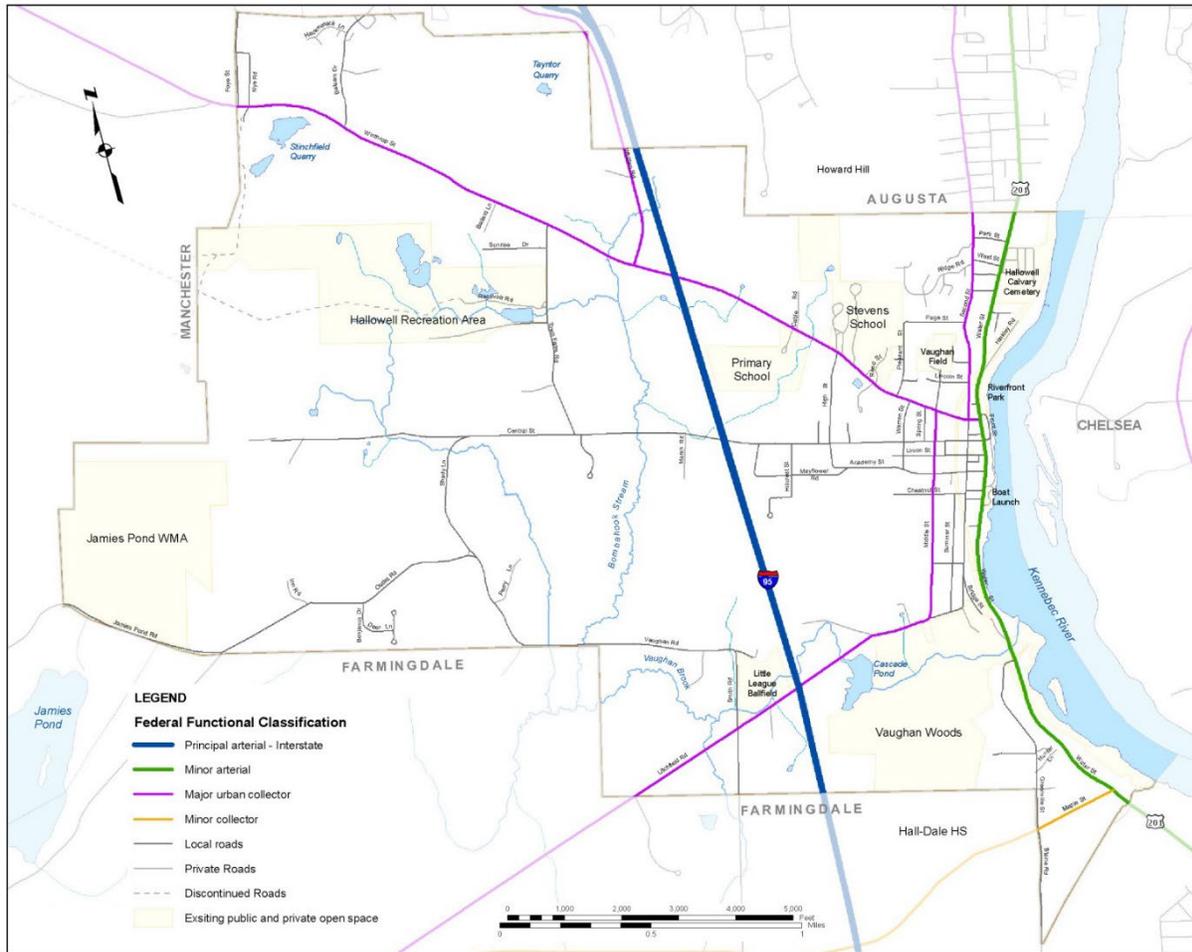
Hallowell's system maintenance responsibilities lie largely with the state and the city. The Public Works Department maintains 31 lane miles of roadways, while the state and federal governments are responsible for 26.68 lane miles. There are also 2.87 miles of private roads. The Public Works Department also maintains a network of 6 miles of public sidewalks, primarily near downtown Hallowell.

## INFRASTRUCTURE

Hallowell's transportation infrastructure is not particularly unusual for a New England small city. Originally oriented on the Kennebec River, the current system is characterized by a multimodal downtown corridor along the riverfront, a street grid in the area near downtown, several radial roads heading away from the river, and an interstate that crosses the middle of the city.

As is typical in this country, the system is oriented primarily towards the movement of cars and trucks. However, there are some multimodal options. The downtown corridor includes a primary bicycle route, with limited bicycle accommodation on other city streets. Limited transit makes a few trips a day into Augusta. There are airports in Augusta, and, for longer trips, in Portland. The downtown core is served by a good sidewalk system, but pedestrian options are spotty elsewhere.

On the whole, Hallowell has a good framework of transportation infrastructure on which to build. Challenges exist in some of the newer residential subdivisions, that tend to be built along cul-de-sac roads that do not interconnect, and often have limited sidewalks. However, near downtown Hallowell, walking and biking remain good options.



Functional Classification of Roads in Hallowell (adapted from map by Bill Duffy, 2010 Comprehensive Plan)

## Roads and Highways

The Maine Department of Transportation (MDOT) and the Federal Highway Administration classify public roads throughout the state based on the role they play in the transportation system. As described by MDOT:

*“Functional classification is the process by which public streets and highways are grouped into classes according to the character of service they are intended to provide based on mobility (arterials provide much mobility) and access to the highway (local roads provide much access, but much less mobility).”*

The classifications that existing in Hallowell are:

- **Principal Arterial- Interstate:** A series of continuous routes that have trip lengths and volumes indicative of substantial statewide or interstate travel.
- **Minor Arterial:** A series of continuous routes that should be expected to provide for relatively high overall travel speeds with minimum interference to through movement.

- *Major Urban Collector*: Major Urban Collectors provide both land access and traffic circulation within urban residential neighborhoods and commercial and industrial areas in federally designated urban areas. Route density is much higher than in rural areas.
- *Minor Collector*: Minor Collectors are spaced consistent with population density to accommodate local roads within reasonable distance of collector roads.
- *Local Roads*: Local Roads provide access to adjacent land and provide service to travel over relatively short distances as compared to the higher systems.
- *Private Roads*: Roads not owned and maintained by public agencies or municipalities.

The roadway system in Hallowell has remained largely the same as it was in 2010. There have been some new private roads built, and improvements to existing roads, but the system is mature based on current demand. Unless there is a significant increase in development in Hallowell, it seems unlikely that this system will change significantly in the next ten to 20 years.

### Roadway Traffic

MDOT tracks vehicular traffic on many city roadways and reports it in a format that controls for time of year and vehicle type. The result is an “Average Annual Daily Traffic” (AADT) count that is comparable across time periods and roads. The Maine Turnpike Authority, the City, and private developers also sometimes collect traffic data for studies or other planning work.

Most of the available data is compiled on the following page. It shows a fairly constant level of traffic on most roads, with some exceptions. Maple Street saw a significant increase from 2014 to 2017, though that increase is so large that it may be indicative of roadway work during the 2014 count, or some other factor. It would be reasonable to look for a more recent count to determine if this is an ongoing trend or simply an issue with one data point. Similar, but smaller, increases are noted on Middle Street and Smith Road.

In general, traffic in Hallowell is not at a level that significantly exceeds roadway capacity on a daily basis. There are definitely times when there is congestion, most often on streets near downtown or the highway, and most often in the summer. However, it’s not generally practical or advisable to design roads for those peak periods, as the cost and land use impact of such a change outweighs the benefit.

In general, there does not appear to be any significant conflicts between local and regional traffic demands in Hallowell, with the exception of some conflicts on or near Water Street in the summer. Without a direct highway interchange, the city is generally able to balance those needs. Similarly, there are no immediate conflicts between state and regional plans and the needs within Hallowell.

**Average Annual Daily Traffic Counts in Hallowell  
(Source: Maine Department of Transportation)**

LOCATION	2012	2013	2014	2015	2016	2017
ACADEMY ST (OW) W/O SR 27/US 201 (WATER)	-	-	260	-	-	-
CENTRAL ST W/O HIGH ST	-	-	700	-	-	-
CENTRAL ST W/O MIDDLE ST	-	-	650	-	-	-
CENTRAL ST W/O ORCHARD LANE @ I-95 BR	-	-	650	-	-	670
CENTRAL ST W/O SR 27/US 201 (WATER ST)	-	1000	1040	-	-	1010
GREENVILLE ST W/O SR 27/US 201(WATER ST)	-	-	840	-	-	890
IR 2255 (SMITH RD) S/O IR 324(HALLOWELL)	-	-	750	-	-	-
IR 2259 (TOWN FARM) S/O IR 342(WINTHROP)	-	-	-	-	-	1910
IR 336 (SMITH RD) N/O IR 324 @ BR# 0557	-	-	970	-	-	1140
MAPLE ST W/O SR 27/US 201 (WATER ST)	-	-	1130	-	-	2110
MIDDLE ST SW/O ACADEMY ST	-	-	1300	-	-	1490
MIDDLE ST SW/O WINTHROP ST	-	-	1330	-	-	1550
NORTH ST W/O SR 27/US 201 (WATER ST)	-	-	1080	-	-	1070
SECOND ST N/O GROVE ST	-	-	620	-	-	650
SECOND ST N/O TEMPLE ST	-	-	1120	-	-	1210
SECOND ST S/O CENTRAL ST	-	-	1380	-	-	-
SECOND ST S/O LINCOLN ST @ BR# 0565	-	-	3130	-	-	3050
SECOND ST S/O WINTHROP ST	-	-	1780	-	-	1680
SR 27/US 201 (WATER ST) N/O FRONT ST(NJ)	-	-	-	-	-	9950
SR 27/US 201 (WATER ST) N/O WINTHROP ST	-	10800	11370	-	-	-
SR 27/US 201 (WATER ST) NW/O MAPLE ST	-	-	13100	-	-	12000
SR 27/US 201 (WATER ST) S/O CENTRAL ST	-	14340	14170	-	-	-
SR 27/US 201 (WATER ST) S/O GOWS LN	-	-	14050	-	-	12990
SR 27/US 201 (WATER ST) S/O WEST ST	9490	10190	10060	9880	9580	-
SR 27/US 201 (WATER ST) S/O WINTHROP ST	-	14390	14180	-	-	13450
SR 27/US 201 (WATER ST) SE/O MAPLE ST	-	-	13490	-	-	-
SR 27/US 201(WATER) N/O WHARF ST (S JCT)	-	15380	-	-	-	-
TEMPLE ST SE/O SECOND ST	-	-	1030	-	-	1150
WHARF ST E/O SR 27/US 201(WATER) (S JCT)	-	270	-	-	-	-
WHITTEN RD N/O WINTHROP ST	-	-	-	-	-	4810
WINTHROP ST E/O WHITTEN RD @ BR# 0555	-	-	-	-	6210	6130
WINTHROP ST NW/O MIDDLE ST	-	-	6100	-	-	6310
WINTHROP ST NW/O WHITTEN RD	-	-	-	-	4170	4470
WINTHROP ST W/O SR 27/US 201 (WATER ST)	-	5820	5820	-	-	5870

## Roadway Safety

Measuring the safety of a road can be done a number of ways. One common method is to measure the number of traffic accidents and types of accidents to see if there are any trends. Looking at state data on traffic accidents in Hallowell, you see an unsurprising pattern. Crashes occur most often on high speed roadways, such as I-95, as well as on roads with high traffic volumes and a number of conflicts between pedestrians and vehicles, such as Water Street and Second Street. There are also accidents on Major Urban Collector roads such as Winthrop Street and Litchfield Road.

While most accidents involve just property damage, there were a total of 78 injuries reported in the 302 accidents reported by the Hallowell Police Department between 2014 and 2018. The average cost of damage estimated in those accidents was \$14,151, while the median was \$4,800. Those accidents represent almost all of the accidents in the city other than those on I-95.

A closer look at downtown reveals that many of the accidents are concentrated on a four-block area surrounded by Water Street, Gows Lane, Winthrop Street and Second Street. This likely reflects the denser nature of that area, and the higher number of pedestrians and on-street parking spaces.

## Bridges

Most of the bridges in Hallowell are owned and maintained by MDOT or the Maine Turnpike Authority. That's not that surprising, as they are mostly spans on I-95 or on major roadways in the city.

Listed below are the bridges in Hallowell and their condition, along with other data. Note

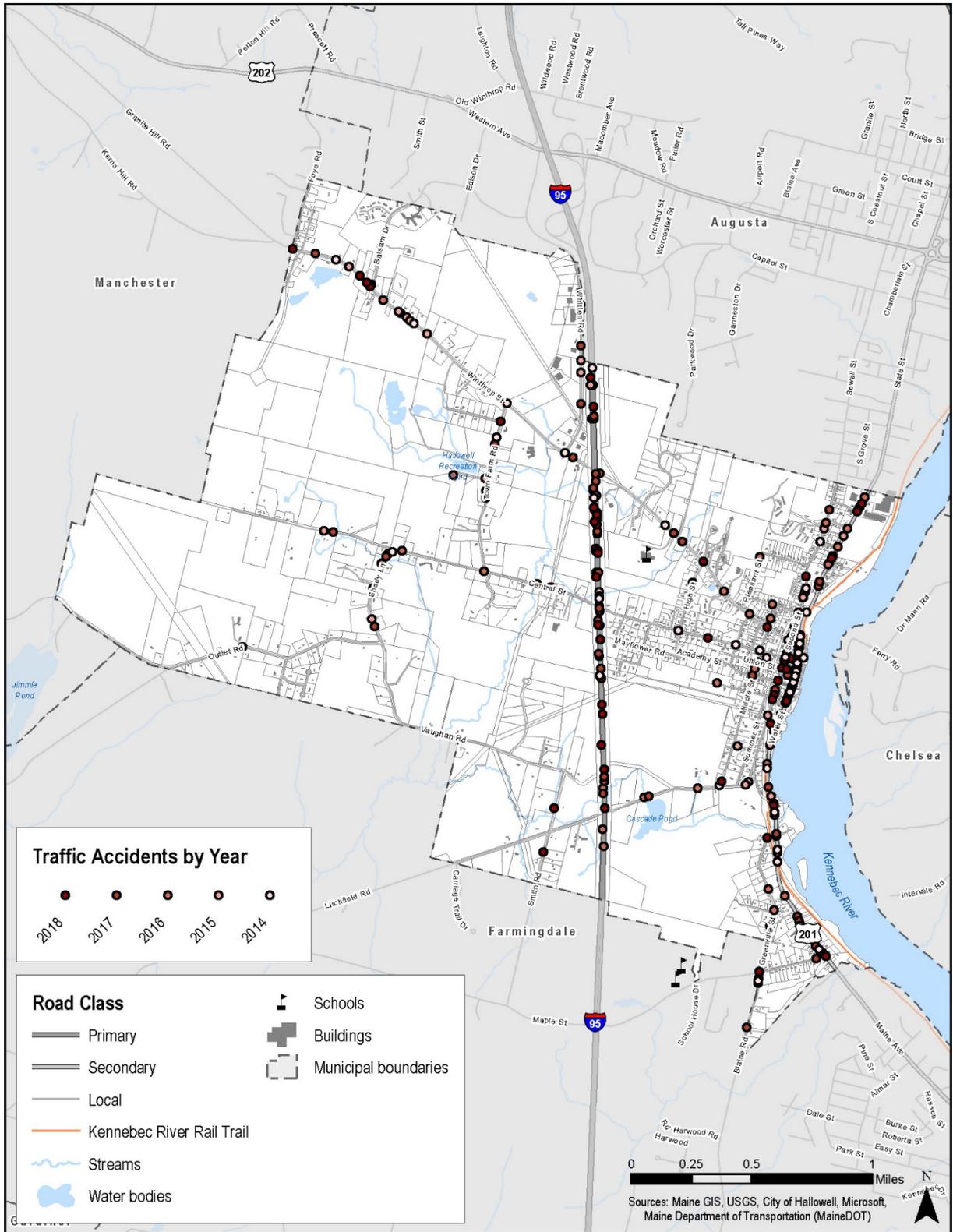
that some bridges appear to be listed multiple times, such as highway bridges, because they are structurally considered multiple bridges.

The condition of bridges in the American transportation system is a challenge generally, and Hallowell is no exception. Most bridges are well over 50 years old and have not been maintained as well as they could be.

Fortunately, the Maine Turnpike Authority bridges, which represent a large portion of the bridges in the city, are generally in better shape. That is likely because the Turnpike collects tolls and utilizes those funds directly for operations and upkeep. Other bridges have to rely on appropriations from the state Highway Fund or federal allocations to Maine, or local funding. They are less likely to follow the proper maintenance schedule, due to other needs.

It's also worth noting that three of the bridges in Hallowell – the Vaughan Memorial Bridge, the Second Street bridge over the Maine Central Railroad, and Milliken's Crossing bridge over the railroad – are all either on the National Register of Historic Places or eligible to be on it. This shows that transportation infrastructure also is sometimes part of the experience of a place.

Similarly, it's important to keep in mind that the bridges that cross over I-95 are often viewed as transition points in the city, and can affect the view of land use and other planning decisions. Some refer to the parts of Hallowell east and west of I-95 as having different characters and needs. This is another example of how transportation infrastructure affects other aspects of planning and geography.





**Bridges in Hallowell  
(Source: Maine Department of Transportation)**

MDOT Name	Road	Crossing	Year Built	Owner	Deck Condition	Superstructure Condition	Substructure Condition	Length (feet)
<b>Vaughan Memorial+</b>	Litchfield Road	Vaughn Stream	1905	MaineDOT	Fair	Fair	Fair	21
<b>Litchfield Road</b>	Litchfield Road	I-95	1956	MTA	Good	Very Good	Good	24
<b>Litchfield Road</b>	Litchfield Road	I-95	1956	MTA	Good	Very Good	Good	56.5
<b>Litchfield Road</b>	Litchfield Road	I-95	1956	MTA	Good	Very Good	Good	56.5
<b>Central Street</b>	I-95	Central Street	1956	MTA	Fair	Fair	Satisfactory	56.5
<b>Central Street</b>	I-95	Central Street	1956	MTA	Fair	Fair	Satisfactory	38
<b>Winthrop Road</b>	Winthrop Road	I-95	1956	MTA	Very Good	Very Good	Good	38
<b>Winthrop Road</b>	Winthrop Road	I-95	1956	MTA	Very Good	Very Good	Good	63
<b>Winthrop Road</b>	Winthrop Road	I-95	1956	MTA	Very Good	Very Good	Good	63
<b>Vaughan Stream</b>	I-95	Vaughan Stream	1956	MTA	Not Applicable	Not Applicable	Not Applicable	10
<b>Vaughan Stream</b>	I-95	Vaughan Stream	1956	MTA	Not Applicable	Not Applicable	Not Applicable	10
<b>Outlet Connection</b>	Smith Road	Vaughan Stream	1955	MaineDOT	Not Applicable	Not Applicable	Not Applicable	10
<b>Second Street*</b>	Second Street	Maine Central RR	1935	MaineDOT	Very Good	Very Good	Satisfactory	65
<b>Central Street</b>	I-95	Central Street	1956	MTA	Fair	Fair	Good	38
<b>Central Street</b>	I-95	Central Street	1956	MTA	Fair	Fair	Good	38
<b>Vaughan</b>	Water Street	Vaughan Street	1935	MaineDOT	Satisfactory	Satisfactory	Fair	18
<b>Milliken's Crossing+</b>	Routes 27 & 201	Maine Central RR	1935	MaineDOT	Satisfactory	Satisfactory	Fair	70
<b>Outlet Road</b>	Vaughan Road	Vaughan Stream	1939	City of Hallowell	Satisfactory	Satisfactory	Good	11

\*- On the National Register of Historic Places

+ - Eligible for the National Register of Historic Places

## Transit

Transit in Hallowell is limited. The Kennebec Valley Action Program, a social service agency, runs a set of fixed-route busses called the Kennebec Explorer. One of those routes, from Gardiner to Augusta, has services at the Cotton Mills Apartments in Hallowell three times a day. It also will stop at the Stevens Commons complex on request twice a day.



This level of service is only useful for those with open schedules who depend on transit to get places, such as retirees and those who cannot drive. While the Kennebec Explorer serves an important need for those residents and visitors, it is not a service that is likely to be useful for commuting to work, or as an alternative for those who can drive.

UMA	Downtown Augusta	State House	YMCA	Stevens Complex	Cotton Mill Apts	Gardiner Hanna-ford	Randolf IGA	Cotton Mill Apts	State House	Down town Augusta	UMA
T	9:30 a	9:35 a	R	R	9:43 a	7:00 a	R	7:10 a	7:15 a	7:20 a	7:30
T	<b>12:30 p</b>	<b>12:35 p</b>	<b>R</b>	<b>R</b>	<b>12:43 p</b>	<b>1:00 p</b>	<b>R</b>	<b>1:10 p</b>	<b>1:15 p</b>	<b>1:20 p</b>	T
T	<b>4:30 p</b>	<b>4:35 P</b>	<b>R</b>		<b>4:43 p</b>	<b>5:00 p</b>	<b>R</b>	<b>5:10 p</b>	<b>1:15 p</b>	<b>5:20 p</b>	

**R** indicates stop on request  
**T** Via transfer to/from Augusta North bus at Downtown Augusta stop.

*Kennebec Explorer Gardiner Line Schedule*

## Bicycle Infrastructure

Hallowell’s main bicycle facility is the Kennebec River Rail Trail. This 6.5-mile trail follows the Maine Central Railroad right of way from Augusta to Gardiner, passing through downtown Hallowell. The trail joins Water Street just south of downtown and then regains a dedicated right of way at Front Street’s intersection with Water Street. The rail trail provides a major transportation and recreation amenity that connects residents and visitors to the river and neighboring communities.



Other than the rail trail, bicycle amenities in Hallowell are limited. There are no other separated bicycle facilities, and no identified bicycle lanes on roadways. Bicyclists travelling around Hallowell are required to either “take the lane” as a vehicle, or rely on riding on sidewalks or the roadway shoulders. Riding on the sidewalk is not permitted on Water Street.

Bicycle improvements should be considered as part of future transportation planning for the city, in order to provide riders with safer options, and to encourage travelers who can to leave their cars behind and bike.



The Kennebec River Rail Trail

## Sidewalks and Pedestrian Connections

Hallowell has about 6.5 miles of sidewalks, mostly located near downtown. Major maintained sidewalk connections include:

- Water Street and much of the rest of Route 201;
- Second Street;
- Winthrop Street (up to Hall-Dale Elementary School)
- Middle Street;
- Union Street;
- Academy Road;
- Lincoln Street;
- Central Street (up to The Ledges);
- Temple Street;
- Greenville Street (most of the street);
- Balsam Drive and
- Maple Street

Other sidewalk sections exist, but are either short or not well maintained. Most of the sidewalks listed above are public. In addition to the sidewalks listed here, the Kennebec River Rail Trail provides a pedestrian connection along the river, and open spaces such as Vaughan Woods provide off-road pedestrian routes.

Generally, the pedestrian connections outside of downtown Hallowell are limited. Walkers either need to walk in the shoulder or along the grass. As with bicycle facilities, the city would benefit from a better-connected set of sidewalks and paths. A rural active living assessment of the City was completed by Healthy Maine Partnerships in 2014. It offered some recommendations related to walkability and pedestrian connections but did not

complete a detailed street analysis.

Nonetheless, the results of that study should be explored as part of any effort to improve pedestrian connections in Hallowell.

## Other Transportation Options

- The Maine Central Railroad tracks run along the river in downtown Hallowell, connecting almost 34 miles to the north and south. However, it has not been used for more than occasional service in over 20 years. Nonetheless, the rail line offers an option for future transit service.
- Taxi services based out of Augusta and Gardiner provide service in Hallowell.
- Rideshare companies such as Uber and Lyft provide limited service into and out of Hallowell.
- The Augusta Regional Airport is owned by the State of Maine and is located in and operated by the City of Augusta. Delta and American Airlines provide service to and from regional hubs such as Charlotte, NC, where many connections can be made. The Portland International Jetport is also about an hour from Hallowell.
- While not the significant port it once was, the Kennebec River provides access to downtown to and from other coastal communities.

## MAINTENANCE

As noted in the introduction, a little more than half the roads in Hallowell are maintained by the City's Public Works Department, and most of the remainder fall under state (or Turnpike Authority) jurisdiction.

Determining how much money the city spends on roadway maintenance can be a little hard to determine, as many of the budget items that may be used for roadway maintenance can also be used for other work. In Fiscal Year 2020, however, a total of \$94,000 was allocated for winter maintenance, and another \$9,000 directly for maintenance costs such as asphalt.

These figures, which are relatively low, are generally likely to remain flat over the next several years. However, with the advent of COVID-19 and the budget pressures facing local governments, it is possible these numbers will go down, at least temporarily.

Public Works prioritizes its winter operations in categories. Staff finishes plowing the highest priority roads and sidewalks first, and then moves on to the next category. Property owners on Water Street are required to clear the sidewalks in front of their property if the city does not do so.

## PLOW ROUTES

Plow and salt routes by priority. Roads are not necessarily plowed in the exact order listed.			
Route 1 PW8	Route 2 PW7	Route 3 PW3	Route 4 PW2
Winthrop St	Maple	Winthrop (Granite Hill)	City Hall
Whitten	Greenville	Town Farm	Fire Dept
Second	Central	Central St-Westerly	Perley's/parking lot
Middle/Litchfield	Academy	Shady	Central St Parking
Temple	Union	Outlet to Manchester	Wharf
Overlook	Chestnut	Vaughn	Front
North	Outer Central	Balsam	Bulk
Park	Chamberline	Nye	Hubbard
Page/Pleasant	Mayflower	Foye	Getchel
High	Orchard	Sunrise	Vine/Sampson
	Hillcrest	Benjamin	Stoddard
	Warren	Moose	West
	Spring	Deer	Wilder/Densmore
	Summer	Jimnies	Grove
	Perkins	McPherson	Bridge
		Beacon	Upper Chestnut
KEY:			Blake
Salt priority			Ledges
Plow priority 1			Gows
Plow priority 2			Elm
Plow priority 3			Dummers

<b>SIDEWALK PLOWING</b> 5 Miles
Water St.
Second from Lincoln to Union
Winthrop
Middle
Second
Union
Academy
Lincoln
Central
Temple
Greenville
Maple
201

## STANDARDS AND POLICIES

### Roadway Acceptance

Hallowell has a roadway acceptance policy that guides whether the city will accept private roads as part of the public road system. This policy, adopted in 2015, was created to “provide a uniform, consistent, and equitable process for the dedication and acceptance of municipal roads and to ensure that the cost of the acceptance of new roads and associated infrastructure by the City does not create a financial burden for the City.”

The policy outlines a process and requirements for the physical design of a road, but leaves final determination as to acceptance with the City Council. Most importantly, it requires that any private roads meet city specifications for design in order to be accepted.

### “Complete Streets”

A Complete Streets policy is an explicit roadway design policy to support road design that serves not only vehicles, but walkers, bicyclists, and other users. Hallowell does not currently have

such a policy. However, work on any state-managed road would have to meet MDOT’s Complete Streets policy, the intent of which is “to help ensure that all users of Maine’s transportation system—our customers—including bicyclists, pedestrians, people of all ages and abilities, transit users, and motor vehicle users, have safe and efficient access to the transportation system.” Many cities in Maine are adopting Complete Streets policies to ensure that roadway improvements factor in a variety of users.

### Roadway Interconnectivity

While many existing roads in Hallowell are interconnected, many of the new subdivision roads are cul-de-sacs that do not connect with other roads. This style, while popular for many individual developers, can increase traffic at the intersection of that road and its connection to the rest of the system. Some cities’ subdivision ordinances require that developers of subdivisions connect their roadways whenever

possible to more than one city road for this reason.

In Hallowell, Section 9-830(2)(b) requires that major subdivisions of more than 15 lots provide two access points, unless this requirement is waived by the Planning Board. In addition, subdivision standards require that developers plan for connectivity in their roadways whenever possible. Under 8-830(E), “[w]here site conditions allow, provision shall be made for the extension of streets to connect with nearby streets and to provide access to adjoining lots of similar existing or potential use. Such interconnected streets shall be designed to discourage use by through traffic.”

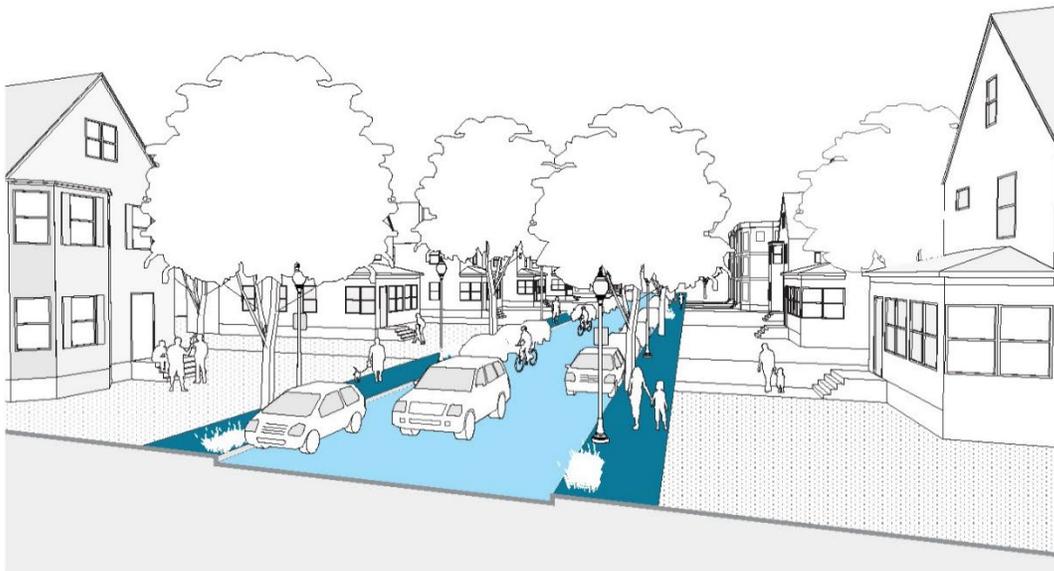
#### Access Management

Access management is a policy of controlling the number of driveways and intersections on a

roadway to reduce conflicts between entering/existing vehicles and through travel. Access management also makes roadways safer for bicycles and pedestrians by reducing the number of places where they could come in conflict with a turning vehicle. Hallowell’s access management policy for Planning Board review process for proposed subdivisions is outlined in 9-848((2)(E) and (F) (“Access Location and Spacing” and “Number of Accesses.”)

#### Design standards

City roadway design standards in 9-848(3) and 6-231 to 244 outline street design and construction standards. In addition to vehicular layout current requirements mandate sidewalks on one side of a road for any development in a Growth Area as outline in the Comprehensive Plan.



*An Example of a Complete Streets Policy Visualized for Neighborhood Roadways from Boston, MA*



# Downtown Parking Spaces (2010 estimate based on aerial count)

Original map by Bill Duffy



Private (93) Business (290) Reserved (4) Public (88) Street (231)

\*\*Spaces east of Middle Street, north of Elm Street and south of the Railroad Bridge on Water Street.

## ANALYSIS & ISSUES FOR FURTHER STUDY

- ✓ Should the City of Hallowell consider adopting a local Complete Streets policy?
- ✓ Should alternatives to driving alone be encouraged in Hallowell, and, if so, what tools are most effective to do so?
- ✓ Should the city look to expand its pedestrian infrastructure?
- ✓ Should the city do more to increase transportation safety for all modes?
- ✓ Should the city's land use code tighten its requirements for street connectivity – or at pedestrian/bicycle connectivity – in new subdivisions?
- ✓ Is the electric vehicle charging infrastructure in Hallowell sufficient to meet rising demand?